

AMENDMENTS TO THE CLAIMS

Cancel claims 15 and 16, without prejudice. Rewrite claim 12 as follows. Add the following new claims 21 and 22.

1 - 11. (Canceled).

12. (Currently Amended) A liquid spraying system comprising:

a plurality of shower header spray devices,

said spray devices each having an elongated spray header having a plurality of laterally spaced liquid spray nozzles, an elongated cleaning brush having a rotatable brush shaft housed in the spray header for cleaning inlet apertures of the liquid spray nozzles, said brush shaft being supported to impart simultaneous axial movement of the brush shaft as an incident to rotation thereof, a drain opening in communication with a downstream end of the spray header, a valve member mounted on said brush shaft for closing and sealing the spray header from the drain opening from said spray header, a motor operatively connected to the brush shaft for rotating the brush shaft to cause the brush shaft to move with a combined rotary and axial movement such that the cleaning brush moves in a rotating and sweeping fashion across the inlet apertures of the spray nozzles, said motor having a microprocessor-based control circuit programmed for driving the brush shaft to execute a cleaning operation,

a plurality of local operation controllers, said local operation controllers each being connected to an associated spray device for transmitting control signals to the control circuit of the motor of the associated spray device to control said motor in executing a cleaning operation on said associated spray device,

a central operation controller connected to each of the local operation controllers and being operable to send control signals to each local operation controller, and

said microprocessor based control circuit for each motor being programmed to rotate the brush shaft a pre-determined number of turns in one rotary direction in response to a first control signal ~~from the local operation controller~~ for cleaning the inlet apertures and simultaneously moving said valve member to a position that opens said drain opening as an incident to rotation of the brush to allow the ~~allowing~~ discharge of liquid and debris removed by the cleaning brush from the inlet apertures ~~to discharge through the drain opening and to rotate the brush shaft a pre-determined number of turns in an opposite rotary direction in response to a second control signal from the local operation controller to return for further cleaning the inlet apertures and simultaneously returning said valve member to a position~~

closing said drain opening from said spray header as an incident to rotation of the said brush in the opposite direction.

13-20. (Canceled).

21. (New) A liquid spraying system comprising:

a plurality of shower header spray devices,

said spray devices each having an elongated spray header having a plurality of laterally spaced liquid spray nozzles, an elongated cleaning brush having a rotatable brush shaft housed in the spray header for cleaning inlet apertures of the liquid spray nozzles, said brush shaft being supported to impart simultaneous axial movement of the brush shaft as an incident to rotation thereof, a drain opening in communication with a downstream end of the spray header, a valve member mounted on said brush shaft for sealing the spray header from the drain opening, a motor operatively connected to the brush shaft for rotating the brush shaft to cause the brush shaft to move with a combined rotary and axial movement such that the cleaning brush moves in a rotating and sweeping fashion across the inlet apertures of the spray nozzles, said motor having a microprocessor-based control circuit programmed for driving the brush shaft to execute a cleaning operation,

a plurality of local operation controllers, said local operation controllers each being connected to an associated spray device for transmitting control signals to the control circuit of the motor of the associated spray device to control said motor in executing a cleaning operation on said associated spray device, each said local operation controller including a start button for sending a trigger signal to trigger said each local operation controller to execute a cleaning operation on an associated spray device,

a central operation controller connected to each of the local operation controllers and being operable to send control signals to each local operation controller, and

said microprocessor based control circuit for each motor being programmed to rotate the brush shaft a pre-determined number of turns in one rotary direction in response to a first control signal from the local operation controller for cleaning the inlet apertures and allowing discharge of liquid and debris removed by the cleaning brush from the inlet apertures to discharge through the drain opening and to rotate the brush shaft a pre-determined number of turns in an opposite rotary direction in response to a second control signal from the local operation controller to return said valve member to a position closing said drain opening.

22. (New) A liquid spraying system comprising:
a plurality of shower header spray devices,
said spray devices each having an elongated spray header having a plurality of laterally spaced liquid spray nozzles, an elongated cleaning brush having a rotatable brush shaft housed in the spray header for cleaning inlet apertures of the liquid spray nozzles, said brush shaft being supported to impart simultaneous axial movement of the brush shaft as an incident to rotation thereof, a drain opening in communication with a downstream end of the spray header, a valve member mounted on said brush shaft for sealing the spray header from the drain opening, a motor operatively connected to the brush shaft for rotating the brush shaft to cause the brush shaft to move with a combined rotary and axial movement such that the cleaning brush moves in a rotating and sweeping fashion across the inlet apertures of the spray nozzles, said motor having a microprocessor-based control circuit programmed for driving the brush shaft to execute a cleaning operation,
a plurality of local operation controllers, said local operation controllers each being connected to an associated spray device for transmitting control signals to the control circuit of the motor of the associated spray device to control said motor in executing a cleaning operation on said associated spray device, each said local operation controller including a signaling device for indicating completion of a cleaning operation,
a central operation controller connected to each of the local operation controllers and being operable to send control signals to each local operation controller, and
said microprocessor based control circuit for each motor being programmed to rotate the brush shaft a pre-determined number of turns in one rotary direction in response to a first control signal from the local operation controller for cleaning the inlet apertures and allowing discharge of liquid and debris removed by the cleaning brush from the inlet apertures to discharge through the drain opening and to rotate the brush shaft a pre-determined number of turns in an opposite rotary direction in response to a second control signal from the local operation controller to return said valve member to a position closing said drain opening.